

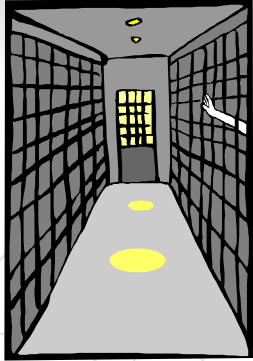
[Return  
to  
Contents](#)

# Kentucky's Mine Map Information System

Martin County Coal Slurry  
Spill -October 11, 2000



Queecreek Mine  
Inundation -July 24,  
2002



# Who Holds and Maintains Kentucky Mine Map Information?

Kentucky Department of Mines and Minerals

Kentucky Department of Surface Mining and Reclamation  
Enforcement

Kentucky Revenue Cabinet

Office of Surface Mining

MSHA

Kentucky Geological Survey

# Kentucky Department of Mines and Minerals

Most complete collection  
of large-scale underground  
mine maps

Over 30,000 distinct mines  
Each with annual maps

Identified by unique  
State File Number

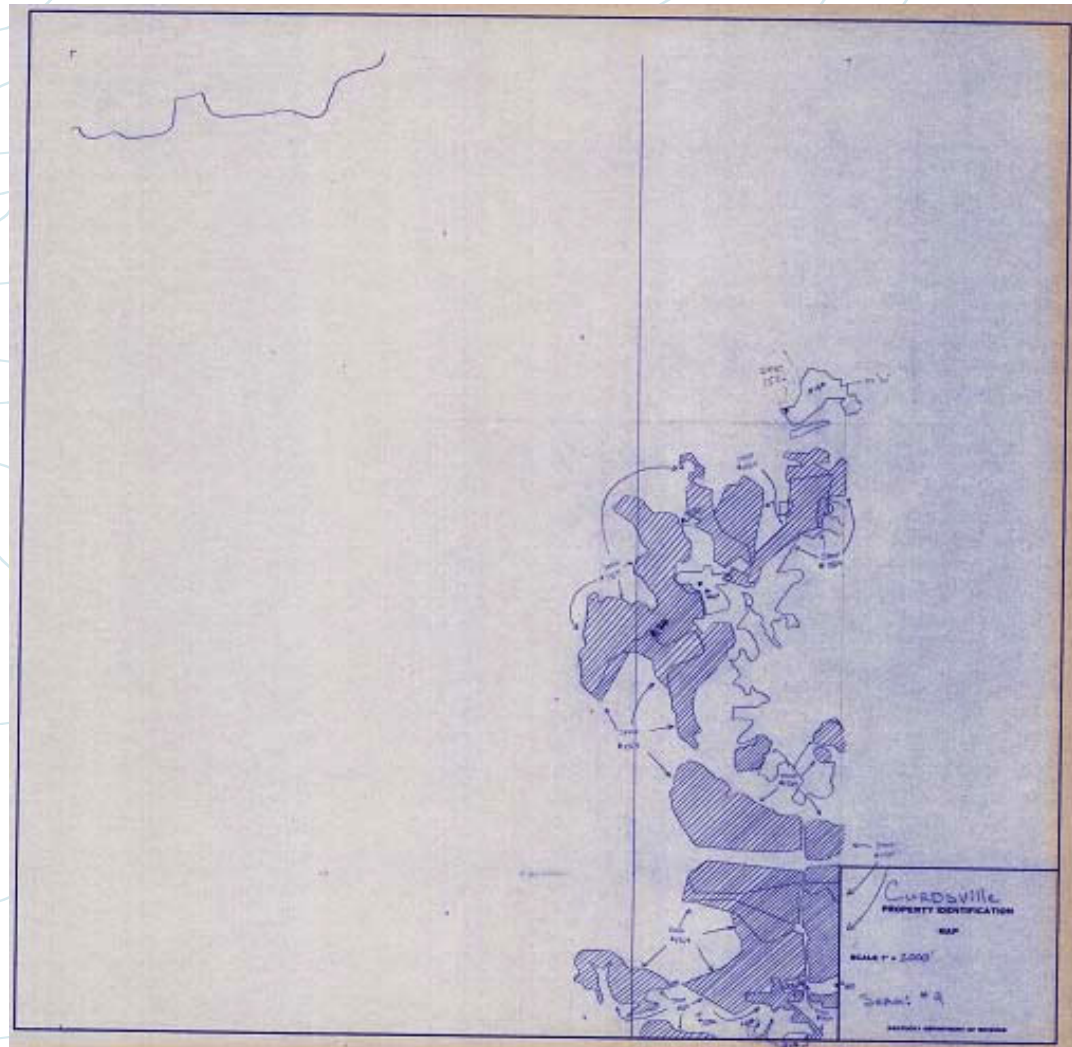




# Kentucky Department of Mines and Minerals

1:24,000 Mine Outline  
Mylar Overlays

Original base for  
Revenue Cabinet  
GIS



# Kentucky Department of Mines and Minerals

## *Mine Map Database*

Seagate ActiveX Viewer - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Reload Home Search Favorites Media Print View Source

Address <http://minemaps.ky.gov/Minereports/SimpleADOMSSQL.ASP?FileNum=18438> Go Links


2002 1 of 1

Preview

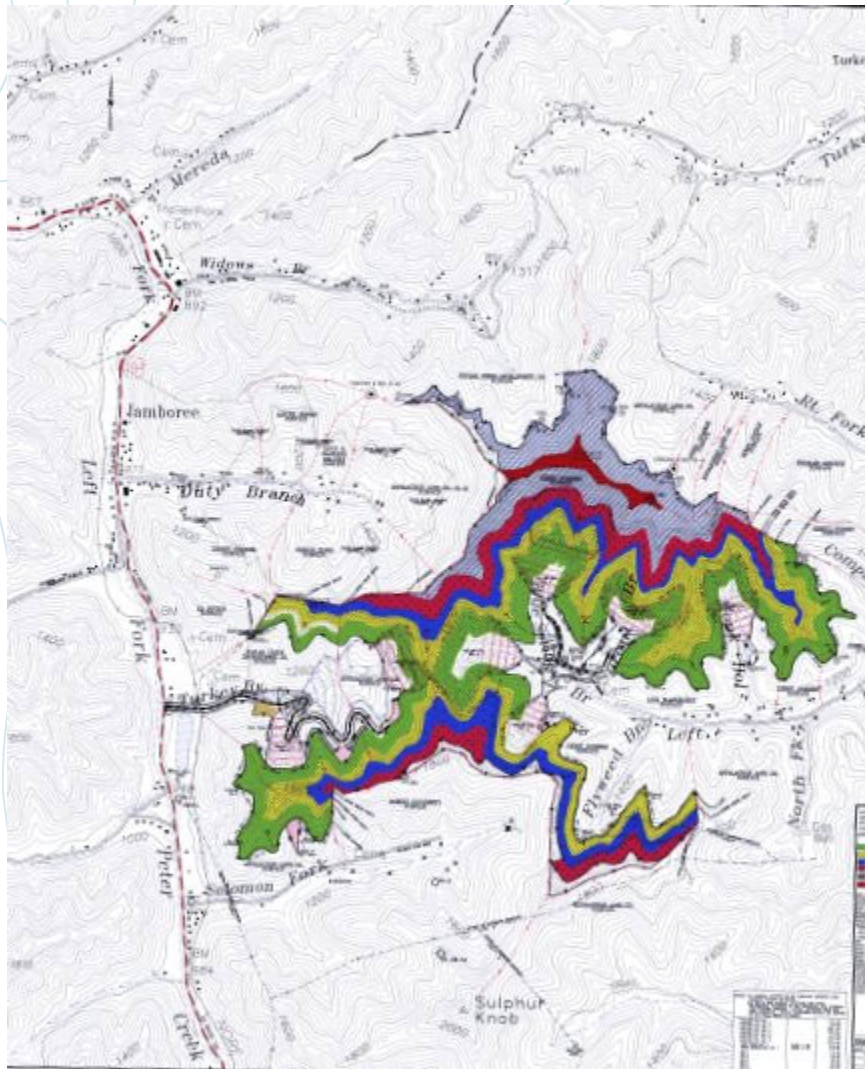
### Mines and Minerals Annual Report

| MINE NAME     | COMPANY NAME              | ADDRESS     | CITY                               | STATE | ZIP   |
|---------------|---------------------------|-------------|------------------------------------|-------|-------|
| <hr/>         |                           |             |                                    |       |       |
| STATE FILE NO | 18438                     |             |                                    |       |       |
| COUNTY: PIKE  |                           |             |                                    |       |       |
| NO 1          |                           |             |                                    |       |       |
| SLEEPY HOLLOW | MISTY MOUNTAIN MINING INC | P O BOX 100 | JONANCY                            | KY    | 41530 |
| 1             | SISTER BEAR MINING INC    | P O BOX 100 | JONANCY                            | KY    | 41530 |
|               |                           |             | Annual Report_TTX_AD_CITY (String) |       |       |
| SLEEPY HOLLOW | MISTY MOUNTAIN MINING INC | P O BOX 100 | JONANCY                            | KY    | 41530 |
|               | GRACE MINING INC          | P O BOX 520 | VIRGIE                             | KY    | 41570 |

Done Internet



# Kentucky Department of Surface Mining and Reclamation Enforcement

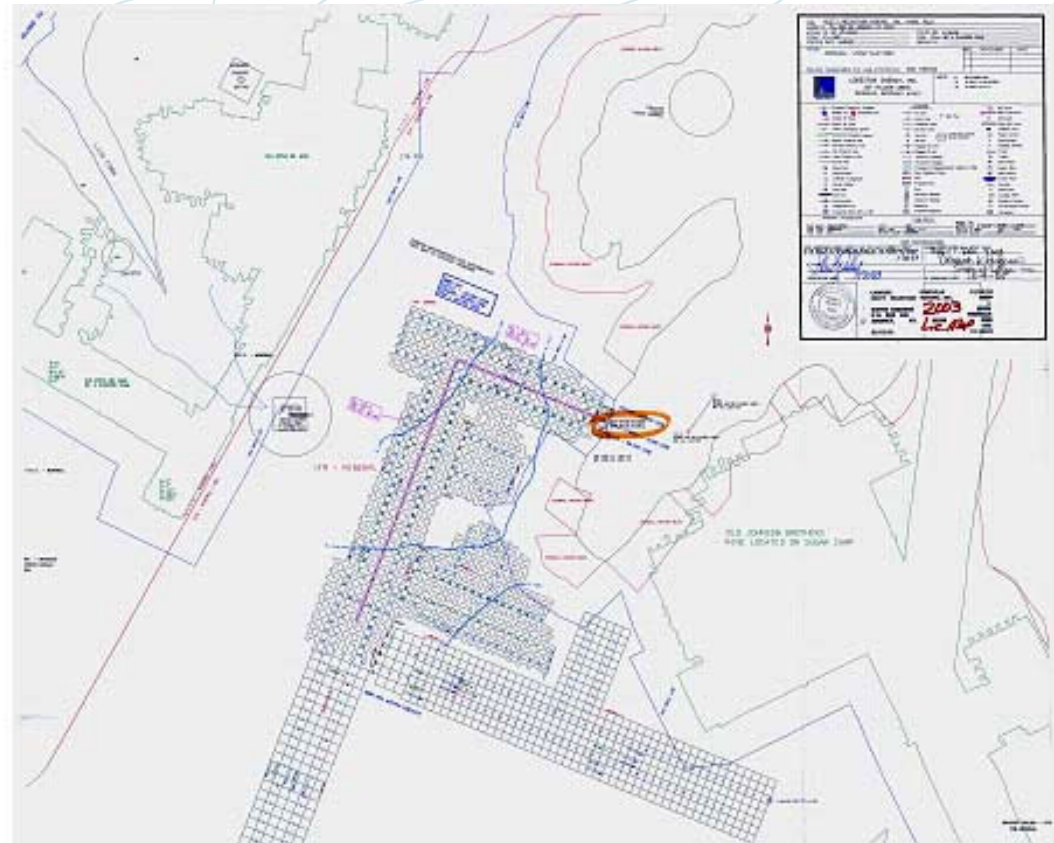


**Mining and Reclamation Plan (MRP)** maps are required to be submitted with any permit application for a coal mining operation in KY. These maps indicate where mining will occur.



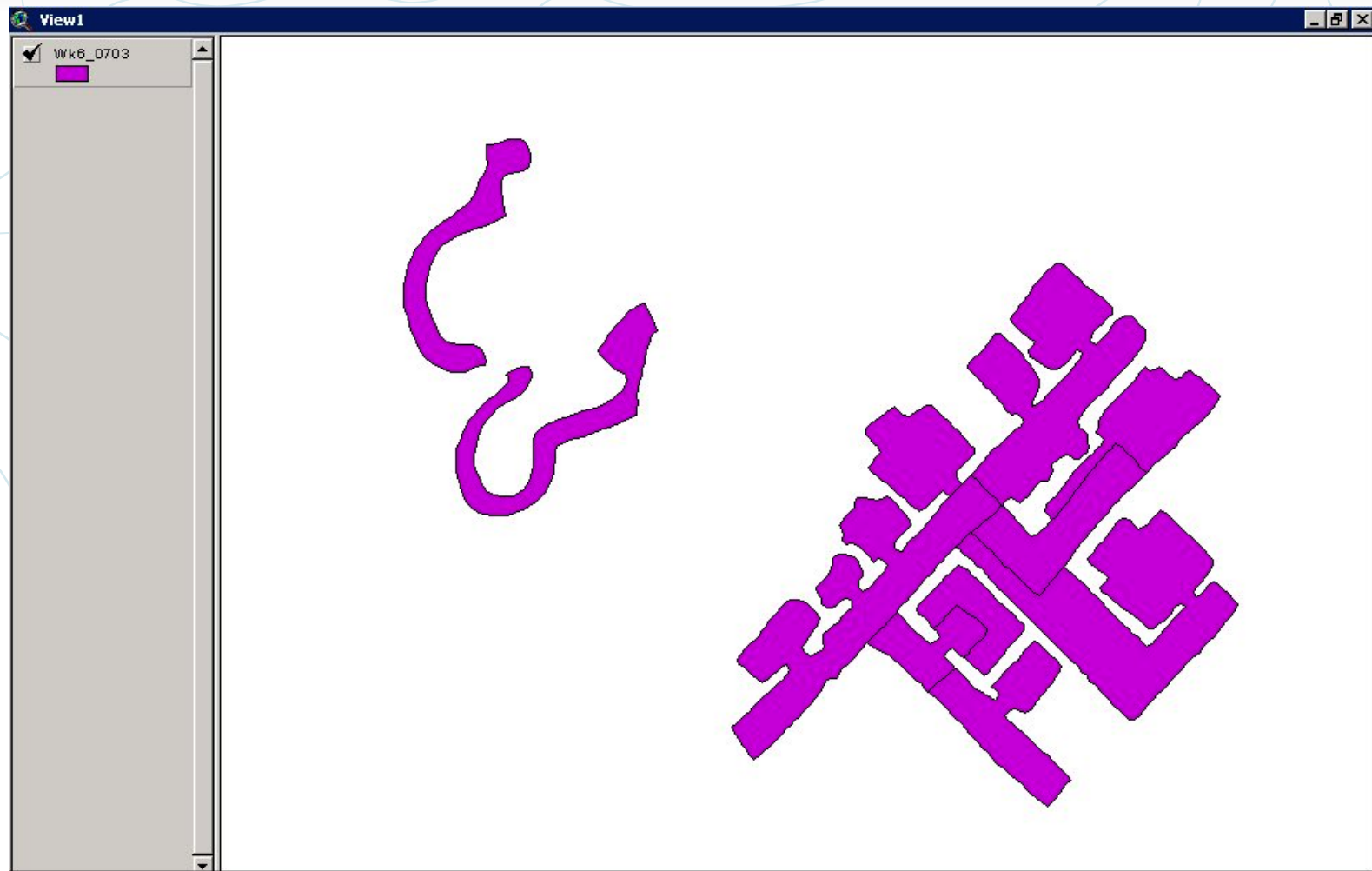
# Kentucky Department of Surface Mining and Reclamation Enforcement

**Annual underground  
maps required since  
1998**





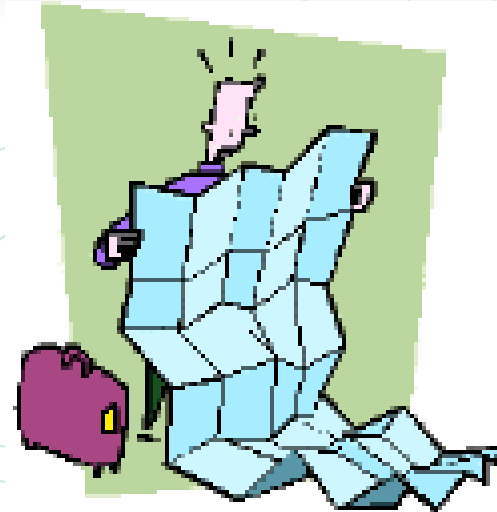
# Kentucky Revenue Cabinet



Digital GIS of mine polygons  
Over 60 layers by coal bed

# Year 2001 Obstacles

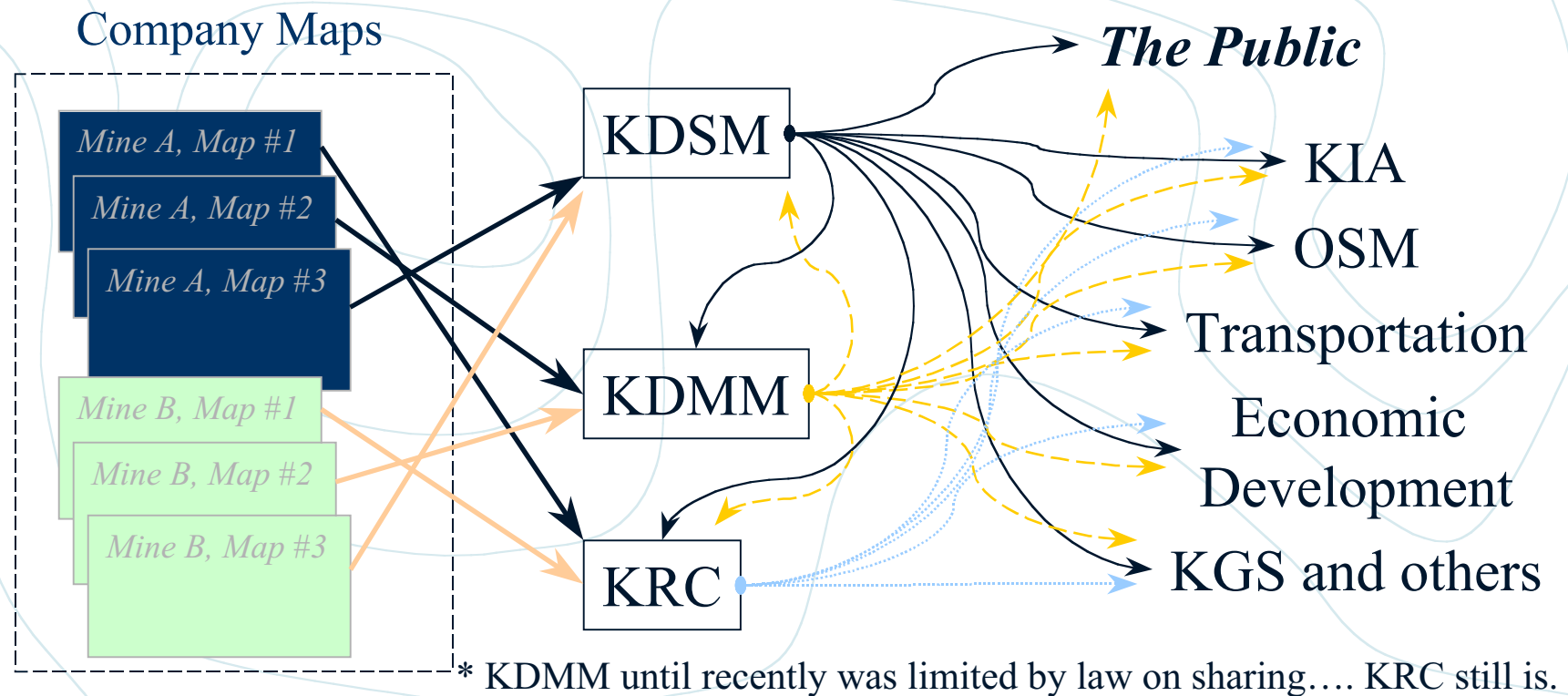
- Maps and data are not entirely in digital format



- Legal restrictions-
  - Mines and Minerals active maps [KRS 352.480]
  - KRC confidentiality restrictions [KRS 131.190 and KRS 131.081(15), KRS 131.355]

# Current Information Flow

Companies must file separate maps. Agencies' needs are similar, but companies may not be reporting the same information to all agencies and agencies are currently limited in information sharing.



A vertical strip on the left side of the slide shows a detailed topographic map of Kentucky, featuring contour lines, rivers, and major roads. The rest of the slide background has a light gray gradient with faint, large-scale contour lines.

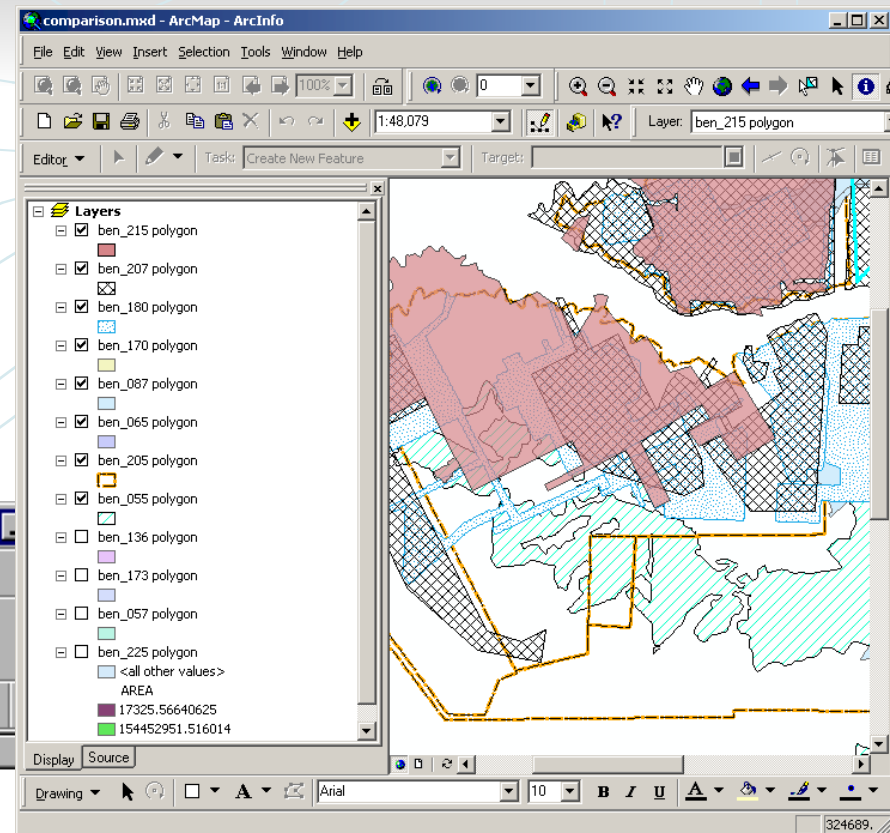
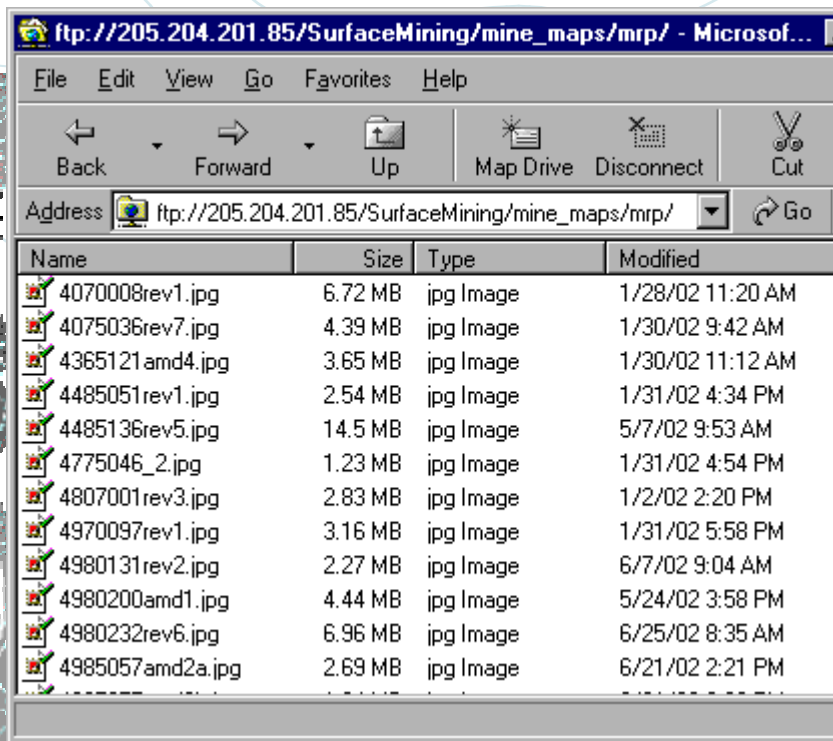
# Kentucky Mine Map Initiative

- State and Federal Agencies originally met in September 2001
- Legal and Technical teams were established
- Initial emphasis placed on legal impediments
- Technical development by regular meetings overseen by  
Cabinet for Natural Resources



# Proposed System

- Develop an ArcIMS web site to display available coal mine related data

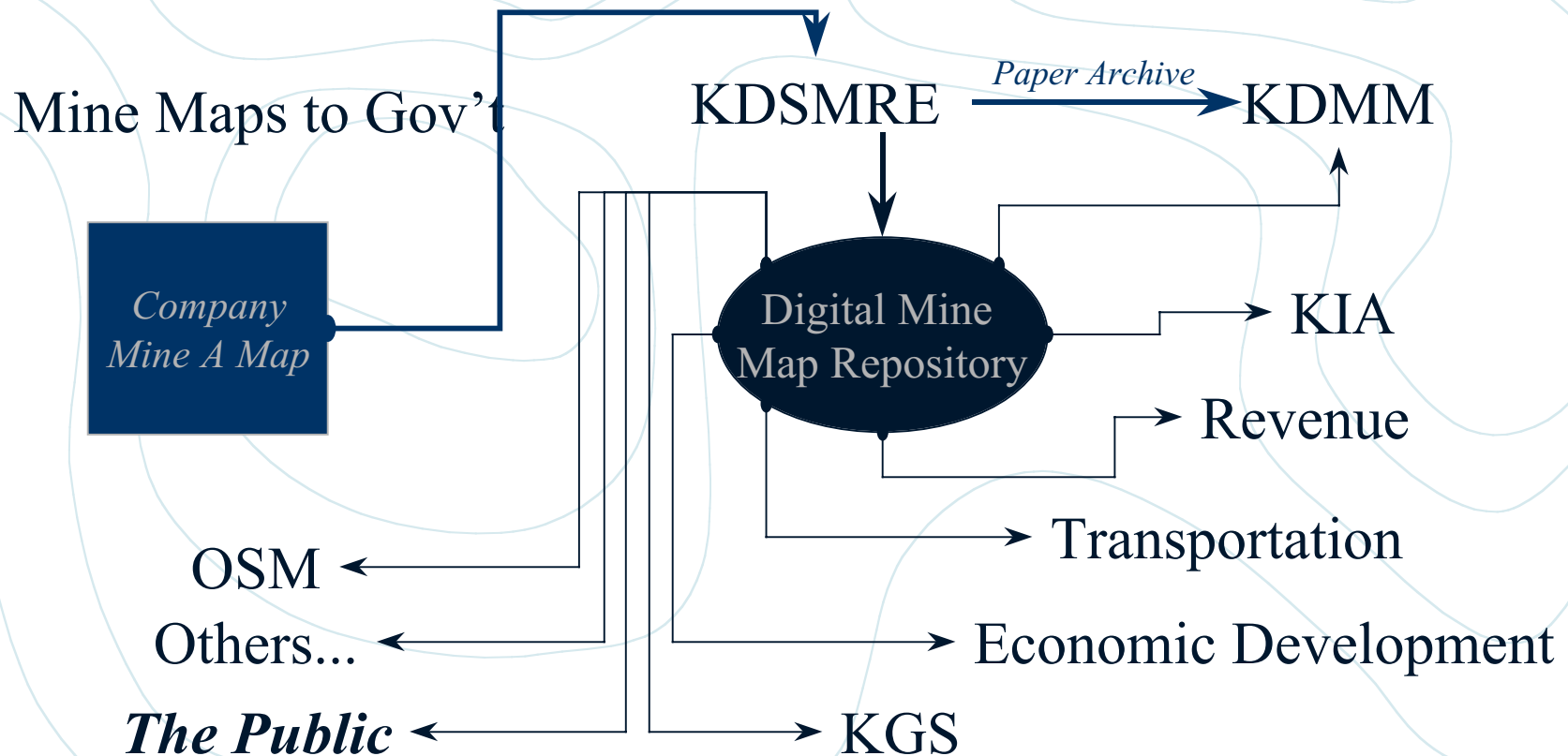


- Establish an FTP site for downloading electronic coal mine related data

# Future Information Flow

Companies will file *one* map shared by all agencies. This will...

- Reduce reporting workload on companies
- Ensure agencies share common understanding about mine location/extent.
- Quicken access needed mine information.





## Phased Development

- **Phase 1:** Prototype online ArcIMS with mine outlines and 2002 active mine scans
- **Phase 2:** ArcIMS customization and enhanced database connectivity
- **Phase 3-n:** Complete scanning and add links to related information



## Successes!

- Technical and Legal teams have accomplished their tasks
- SB 165 passed allowing maps to be released
- MOAs allow Revenue Cabinet to share data with other agencies
- KRC, KDMM, and KDSMRE are scanning and verifying maps
- Phase I ArcIMS ready to announce



[www.minemaps.ky.gov](http://www.minemaps.ky.gov)



Search KY:   Options

## KY Mine Mapping Information System

[Home](#)

[Benefits](#)

[History](#)

[Project  
Team](#)

[Our  
Customers](#)

[Feedback/Links](#)

Welcome to the Kentucky Mine Mapping Information System Home Page

### Purpose

This web site was developed by a collaboration of Commonwealth and Federal agencies to provide online access to maps showing locations of coal mines in Kentucky.

### Information Available

This Website provides Internet access to view and download (1) all known mined out areas (polygons) digitized by the Kentucky Revenue Cabinet (2) individual Mine reports from the Mines and Minerals database, and (3) Scanned images of Engineering drawings (mine maps) for year-end 2002 (2003 reporting year) active mines.

### On-Line Internet mapping

There are two ways to access this information (1) an on-line Internet map for viewing and download and (2) a directly accessible FTP download site.

You have a choice of two on-line map services. The first map service is restricted to polygons derived from 2002 active mining and each of these polygons has a scanned image of the engineering drawings submitted for reporting year 2003 in addition to the mine report. The second map service shows known mined out extents and is organized by coal seam. You can access mine reports from many of these polygons.



Click here to  
access the  
internet mine  
map and FTP  
applications

# Kentucky Mine Mapping Information System



## Internet Mine Map Application (Search Page)

[Home](#)[Benefits](#)[History](#)[Project Team](#)[Our Customers](#)[Feedback / Links](#)

**Important Note:** The mined out area polygons were derived from mine engineering drawings/maps, submitted to the Kentucky Revenue Cabinet and the Kentucky Department for Mines and Minerals. These polygons were digitized from varying source materials at differing scales and stored at 1:24,000 scale. The accuracy of the source maps has not been verified. These data therefore would not exceed the current National Map Standard for 1:24,000 scale maps which states that they are accurate to within +/- 40 feet horizontally (from a well defined location). These data should not be considered complete and should not be used as the sole basis for any determination. These data do not constitute all coal mining voids nor does it show naturally occurring voids or other underground mining voids (e.g. stone quarries). These data are being made available as a reference and as a first resource in determining mine voids in Kentucky and any determination made from this data should be confirmed or denied by either examining the archive maps at the Kentucky Department for Mines and Minerals or by doing local geotechnical investigations.

The following Search options are available to assist you in finding your area of interest:

### Active Coal Mine Areas

For access to an on-line map of currently active mining, as of reporting year 2003, choose one of the following search methods. Note: Each of these polygons is linked to a corresponding Mine report and scanned image of the engineering drawings (map) for the mine.

| Search by Map                                  | Search by County<br>(Eastern Coal Field)        | Search by County<br>(Western Coal Field)        | Search by<br>7.5 ' Quadrangle                      |
|--|---|---|--|
| <input type="text" value="Choose an area..."/> | <input type="text" value="Choose a County..."/> | <input type="text" value="Choose a County..."/> | <input type="text" value="Choose a 7.5' Quad..."/> |

### Known Mined Out Areas by Coal Seam

For access to an on-line map of all historic known mined out areas, organized by coal seam, choose one of the following search methods. Note: a mine report for the Mines and Minerals database is available for approximately 12,000 of the 43,000 polygons.

| Search by Map                                  | Search by County<br>(Eastern Coal Field)        | Search by County<br>(Western Coal Field)        | Search by<br>7.5 ' Quadrangle                      |
|--|---|---|--|
| <input type="text" value="Choose an area..."/> | <input type="text" value="Choose a County..."/> | <input type="text" value="Choose a County..."/> | <input type="text" value="Choose a 7.5' Quad..."/> |



# Active Coal Mine Polygons

Kentucky Mine Mapping Initiative

Bookmark Help Mined Out Extents Map Service

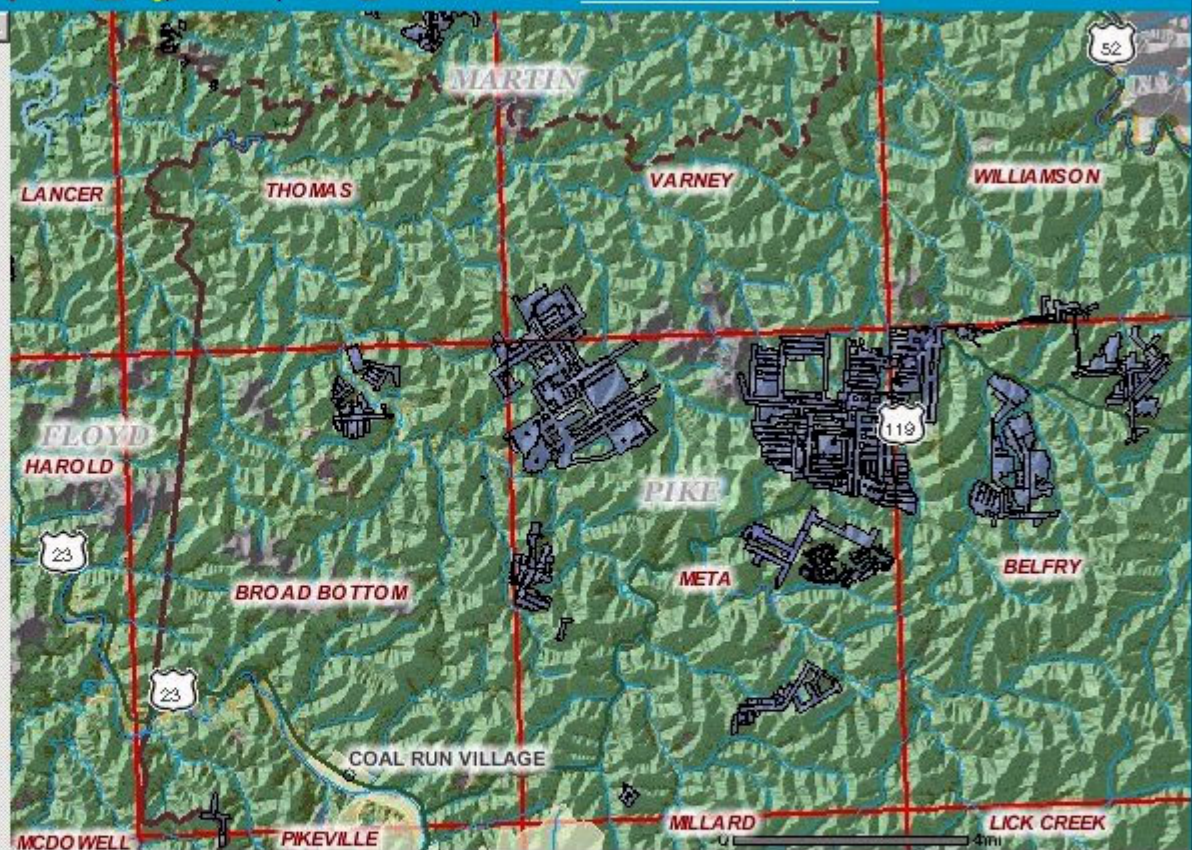
## LAYERS

- ☒ All Layers
- ☒ Oil/Gas Wells
- ☒ Mine Maps Scanned 2003
- ☒ Base Map
- ☒ Base Imagery

Refresh Map

## Help:

- A closed group, click to open.
- An open group, click to close.
- A map layer.
- A hidden group/layer, click to make visible.
- A visible group/layer, click to hide.
- A visible layer, but not at this scale.
- A partially visible group, click to make visible.
- An inactive layer, click to make active.
- The active layer.



## Counties

Selection cleared.

Zoom In

[Coal Seam Index](#) [Kentucky Mine Mapping Initiative](#)



# Known Mined Out Extents by Coal Seam

Kentucky Mine Mapping Initiative

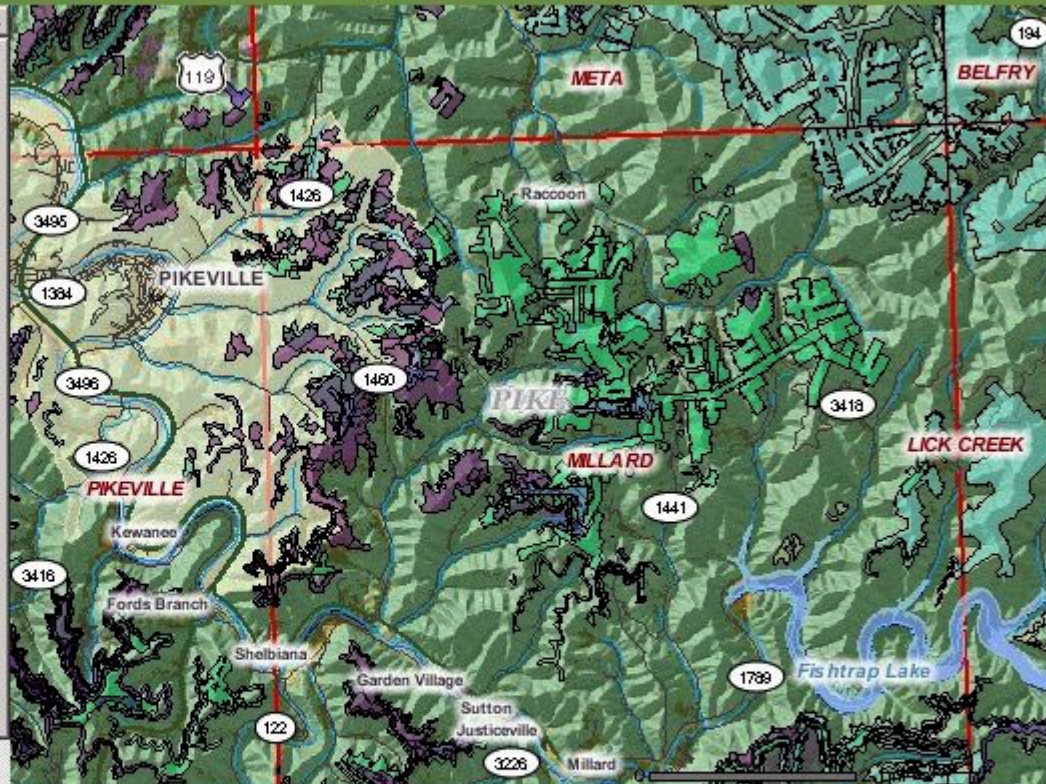
Bookmark Help Active Coal Mine Map Service

## LAYERS

- ☒ All Layers
- ☒ Oil/Gas Wells
- ☒ Eastern Coal seams
- ☒ Western Coal seams
- ☒ Base Map
  - ☒ Incorporated Cities
  - ☒ Populated Places (GNI)
  - ☒ Major Roads
  - ☒ State Roads
  - ☒ Local Roads
  - ☒ Time Zone Boundary
  - ☒ NHD (100k)
  - ☒ NHD (24k)
  - ☒ Ohio River
  - ☒ Lakes/Reservoirs
  - ☒ City Boundaries
  - ☒ Quad Boundaries
  - ☒ Counties
- ☒ Base Imagery
  - ☒ Shaded Relief
  - ☒ LANDCOVER
  - ☒ SPOT 10 Meter
  - ☒ KRGs
  - ☒ Orthoimagery

Refresh Map

Help:



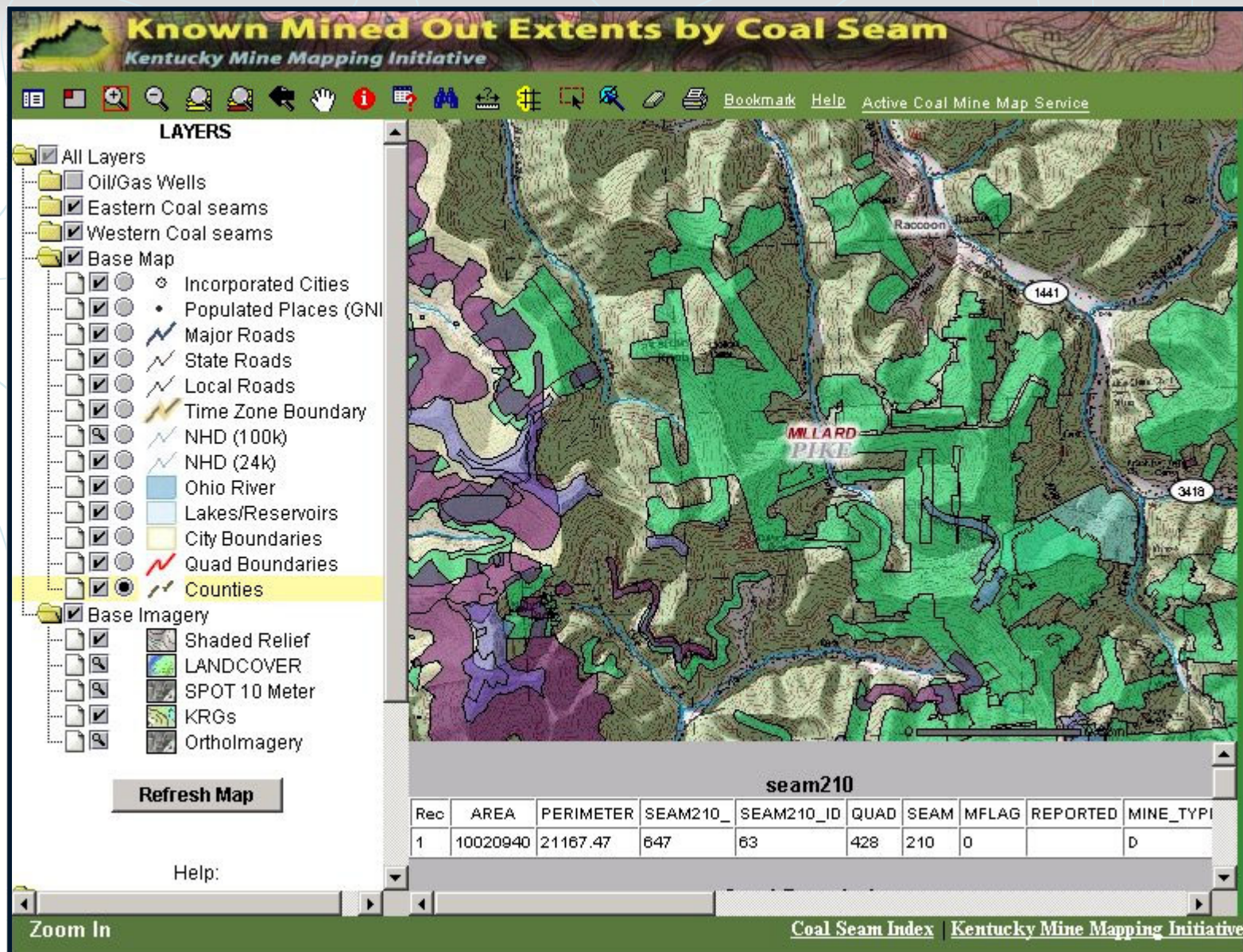
## seam210

| Rec | AREA     | PERIMETER | SEAM210_ | SEAM210_ID | QUAD | SEAM | MFLAG | REPORTED | MINE_TYPI |
|-----|----------|-----------|----------|------------|------|------|-------|----------|-----------|
| 1   | 10020940 | 21167.47  | 647      | 63         | 428  | 210  | 0     |          | D         |

ID Visible Features

[Coal Seam Index](#) | [Kentucky Mine Mapping Initiative](#)







### Available Documents

You have "identified" the polygon for Kentucky State File number 18083. The State File Number is a unique number assigned by the Department of Mines and Minerals to all coal mines licensed by KDMM in Kentucky.

Detailed mine reports are available for most, but not all file numbers. If a report is available you may view it by clicking on the link provided below. You may print a copy of the report locally by using the print button provided (not the browser print feature).

Detailed scanned images of engineering mine drawings are available for mines active during 2002. These maps are those submitted to Kentucky Department of Mines and Minerals for the 2003 reporting year. The maps are incorporated into "Zip" files and include an associated "world" file, which provides geographic reference. Some "Zip" containers include multiple maps for the same File Number. If maps are available for this File number you may access them by clicking on the link provided below.

***Data Reporting for this State File Number is currently unavailable.***

["Click" to View Mine Image](#)

**Version 1.4.3 September 23, 2003**



Kentucky Mine Mapping Information System - FTP Download Page - Microsoft Internet Explorer

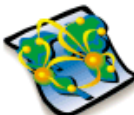

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print View Source

Address <http://www.minemaps.ky.gov/ftpdownload.htm> Go Links >>

## Kentucky Mine Mapping Information System

### FTP Download Page



|                      |                          |                         |                              |                               |                                  |
|----------------------|--------------------------|-------------------------|------------------------------|-------------------------------|----------------------------------|
| <a href="#">Home</a> | <a href="#">Benefits</a> | <a href="#">History</a> | <a href="#">Project Team</a> | <a href="#">Our Customers</a> | <a href="#">Feedback / Links</a> |
|----------------------|--------------------------|-------------------------|------------------------------|-------------------------------|----------------------------------|

**For direct access to the FTP site to download East and West coalfield polygons and scanned Engineering Drawings (Mine Maps) choose one of the following. Note that you will need to know the State File Number to download the correct Engineering Drawings.**

|  |  |  |
|--|--|--|
| <a href="#">Eastern Coal Field Seams</a><br>(Zipped Shapefiles - 25.5mb) | <a href="#">Western Coal Field Seams</a><br>(Zipped Shapefiles - 3.25mb) | <a href="#">2003 Scanned Mine Maps</a><br>(.tif images with world files) |
|--|--|--|

Internet



## Next Phases

- Continue Scanning Final and Last Maps
- Link All Mine Outlines to Image Files and Database
- Customise ArcIMS Functionality
- Secure Ongoing Funding for Development and Maintenance





# Estimated Development Time and Costs



**Shared Project Manager** - \$100,000 annually



**ArcIMS Site** – Startup costs \$50,000 – paid  
Annual Ongoing costs of operation \$35,000



Annual cost of additional **software development**  
\$50,000



Cost of annually **scanning** maps and back-file conversion of last map for every mine: \$90,000 includes 2 geo-processors



Est. time for **scanning all paper maps** – 2 years if outsourced

:

Cost: \$500,000 – 1,000,000 (does not have to be done to provide for a complete mine detail coverage)